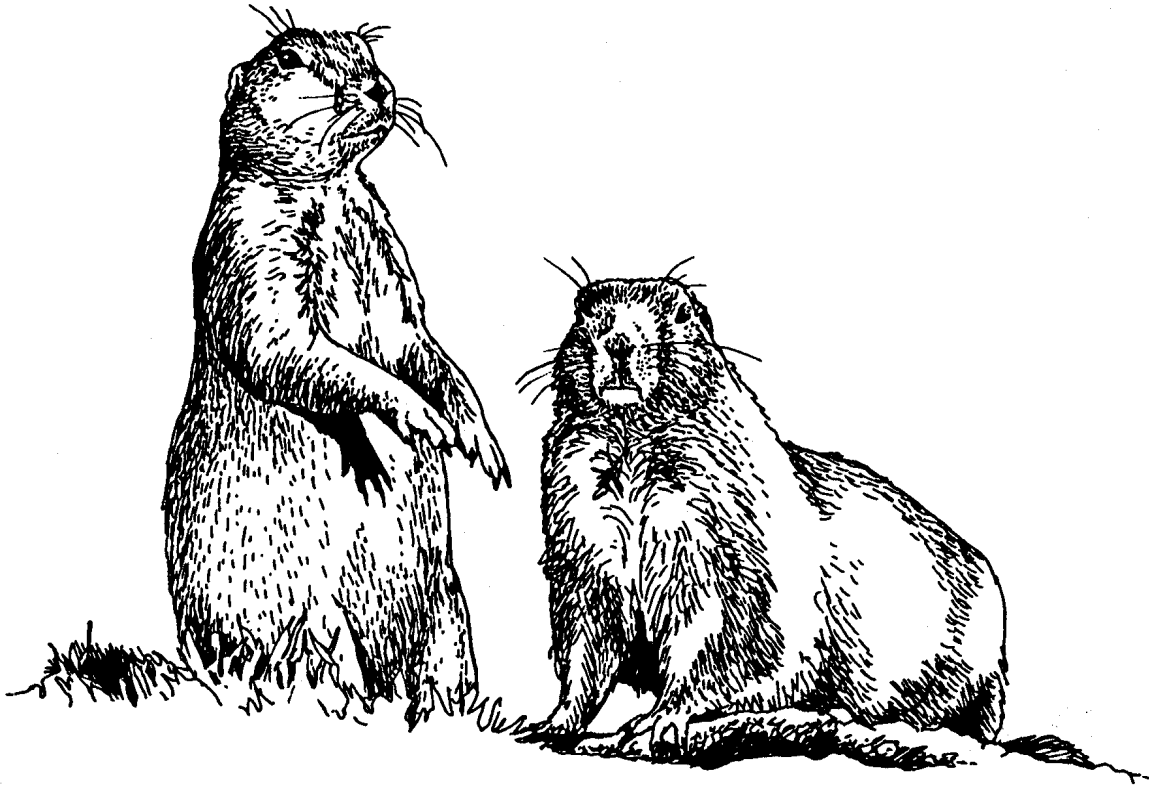


PRAIRIE DOG MANAGEMENT



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THE BIOLOGY AND CONTROL OF THE BLACK-TAILED PRAIRIE DOG

BIOLOGY

The black-tailed prairie dog (*Cynomys ludovicianus*) is the largest member of the ground squirrel family found in Montana. This buffy-yellow to reddish colored rodent is easily identified by its short tail (about one fourth of the total body length) which is black tipped. Adults are from 11 to 13 inches long and weigh 2 to 3 pounds.

The black-tailed prairie dog is gregarious and lives in colonies usually referred to as "towns". These prairie dog towns are found in the short grass prairie regions of central and eastern Montana. Characteristic of these prairie dog towns is the abundance of individual burrows which appear as conical mounds of packed soil 1 to 2 feet high. Populations may vary from 5 to 35 prairie dogs per acre.

Prairie dogs feed mostly on grasses and forbs from which they obtain needed water. They will also readily consume seeds, grain, grasshoppers, and other insects when available. Although prairie dogs do not hibernate, they become dormant for short periods during cold weather. Breeding usually begins in February and one litter per female of 4 to 6 young is born from March to April after an approximate 30-day gestation period. In another 4 to 6 weeks, the young prairie dogs appear above ground.

DAMAGE

Prairie dog damage can be a controversial and debatable subject. The prairie dog is a traditional part of the western U.S. environment. Their activities result in the

development of complex plant and animal communities. Prairie dogs provide many recreational opportunities including wildlife observation and photography, interpretive and scientific uses and sports shooting.

The prairie dog can become a serious pest on grazing and cultivated lands. They compete with livestock for range forage, frequently near stock water dams or watering holes. In addition to the forage they consume, large amounts of vegetation may be clipped and removed so that the prairie dogs can be more readily observe any approaching predators. Prairie dogs in or near grain fields will consume and clip substantial amounts of the grain. Combined overgrazing by prairie dogs and livestock can cause serious erosion and watershed problems. In times of drought, further damage can occur to root systems of plants as evidenced by pock-marked diggings by prairie dogs. The reduction or removal of desirable plant species allows an increase in undesirable plants such as cactus.

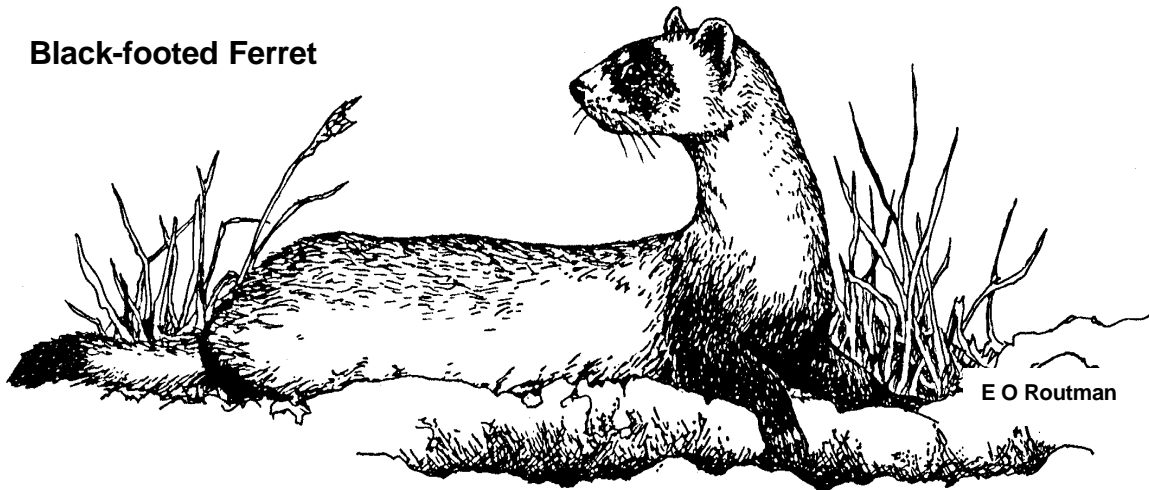
CONTROL

When prairie dog damage indicates control is necessary, several methods may be considered. The control method selected should be safe and the most effective for your problem. Because of the reproductive capability of prairie dogs, it is necessary to reduce their numbers by approximately 90 percent if long term control is desired. Periodic spot treatment can help prevent unwanted expansion of prairie dog numbers while maintaining populations below economic injury levels.

ENDANGERED SPECIES CONCERNS

Before control is implemented, effects on nontarget species should be considered. Of all the varied wildlife species which may be found in prairie dogs towns, the black-footed ferret, a natural predator of prairie dogs, may be the animal most adversely affected by prairie dog control. The black-footed ferret, a long, thin bodied animal characterized by a distinctive black mask across the face, black feet and legs and a black-tipped tail, is a member of the weasel family. It is classified as an endangered species. Prairie dog towns should be thoroughly searched for evidence of the black-footed ferret before control is initiated. Techniques for identification of black-footed ferrets or their signs may be obtained from the Montana Department of Agriculture, Montana Department of Fish, Wildlife, and Parks, or the U.S. Fish and Wildlife Service.

Black-footed Ferret



RANGE RESTORATION

When considering a prairie dog control program, one should also plan some range management procedures to aid in the recovery of affected areas as well as deter further occupation by prairie dogs. Deferred grazing, replanting of native grasses, and

other practices will help to improve the range condition and ultimately reduce the suitability of these areas for prairie dogs.

CONTROL TECHNIQUES

Shooting prairie dogs is expensive and time consuming but may provide some relief in small prairie dog towns. Some shooters will travel long distances for the opportunity to shoot prairie dogs, a control option ranchers may wish to consider for accessible prairie dog towns.

Trapping prairie dogs is very labor intensive and impractical for large acreages. However, leghold traps or body traps such as the Conibear could be used to catch prairie dogs on small areas. The traps are set directly in front of or over a burrow entrance and must be anchored securely to the ground. No bait is needed. Although, generally safe, dogs, weasels, badgers, and

other predators may be injured or killed by such traps.

Burrow fumigants are products that release toxic gases when used in a burrow system. Labor and cost of materials usually restrict the use of fumigants to small acreages or sparse populations. They are



recommended as a cleanup method after the use of poison bait and in areas where it is considered unsafe to use poison baits.

The ignitable gas cartridge is the most commonly available burrow fumigant. When ignited they produce toxic gases, primarily carbon monoxide, and consume available oxygen in the burrow system. After the fuse is lit the cartridge is placed well down into the burrow. The burrow opening should then be sealed with soil and tamped tightly with a shovel. Treat all active burrow openings. Caution should be exercised when using gas cartridges in dry situations since they can be a fire hazard. Gas cartridges are a General Use Pesticide and do not require a license for purchase or use.

Aluminum phosphide tablets are another type of burrow fumigant. These products release phosphene gas in the presence of moisture. The tablets should be placed well down into the burrow. A 4- or 5-foot section of 1- to 2-inch diameter plastic pipe can be used to place the tablets deep into the burrow. Work the pipe as far as possible into the burrow, drop the tablets into the pipe, remove it, and

plug the burrow opening with a cactus clump, sod, or crumpled newspaper. Care must be taken that soil does not cover the tablets which will reduce that rate of gas release. Cover the plug with loose soil and tamp tight with a shovel. Treat every burrow opening.

Use care when handling or storing aluminum phosphide products. Atmospheric humidity and perspiration on the hands cause gas release. Phosphene gas will absorb through the skin. Always wear gloves and dispose of them after use. Stand up wind during application. Open the canisters only outdoors and store in a dry area not inhabited by humans, pets, or livestock. Follow label instructions carefully. This is a Restricted Use Pesticide requiring a license to purchase or apply.

Toxic grain bait is most commonly used to control prairie dogs. The effectiveness of poison grain baits is closely associated with the activity and food preference of prairie dogs. Temperature and weather have great influence on activity. For the best bait acceptance, treatment with grain baits should be done before vegetation green-up in the spring or after vegetation has dried up in late summer or early fall. Severe drought or open mild winters also provide good control opportunities. Generally, grain bait applications when green vegetation is present is not effective.

Currently, zinc phosphide baits are the only grain baits registered for prairie dog control in Montana. Preferred baits are formulated on oats that are whole, crimped or de-hulled and rolled. Baits formulated into pellets or on other types of grain are not recommended because of poor acceptance by prairie dogs. Zinc phosphide baits can be purchased from many pesticide dealers. They are Restricted Use Pesticides requiring a commercial or private applicator license to purchase and to apply.

Prebaiting (applying nontoxic grain several days prior to toxic bait application) will improve bait acceptance by conditioning the prairie dogs to a new food source. Prebaiting doubles the application labor but, when using a poorly accepted chemical like zinc phosphide that requires rapid ingestion to be effective, this is a necessary step to ensure that adequate control is achieved.

Before applying bait to large acreages, conduct a bait acceptance test. Do this by scattering a teaspoonful of plain whole oats near 25 or more prairie dog burrows. Space the bait spots apart by 25 or more feet and mark them so they can be relocated. Check the bait spots the following day to see if the bait was consumed. If results were favorable proceed with application of the prebait and the toxic bait to the treatment area. If bait acceptance is poor, wait until bait acceptance improves. **Bait should be applied only once per year.** Continued baiting may cause "bait shyness" and control will become difficult and costly.

Before applying grain bait, **read** the label instructions carefully. The amount of bait specified on the label should be **scattered** near every burrow entrance. Do not drop the bait down the burrows or in thick grass. Do not place bait in piles. Scattering the grain over a 2 to 3 square foot area will increase acceptance by prairie dogs and decrease the hazards to livestock and other nontarget species. Bait may be applied by hand from vehicles, horseback, or motorcycles. Extreme caution must be used when applying grain bait by horseback. Use zippered bait bags which can be closed when not actually baiting. During application keep excess bait in locked or latched storage to prevent access by children or livestock.

SAFETY

When storing poison baits, they should be

kept under lock and key in a dry location away from children, livestock, and pets. Always keep toxic bait in original, labeled containers that are marked POISON. Use fresh bait. Buy only enough for one season's use. Store any excess bait in a cool to moderate temperature environment where there is little temperature variation. To reduce dehydration of the bait, place the bait in its original container inside plastic garbage bags during storage. Use the carry-over bait at first opportunity the following year. Old bait is still toxic but if dehydrated, may be poorly accepted by the rodents.

Hazards to nontarget animals from toxic baits are present in two ways: primary poisoning - direct consumption of the bait material and secondary poisoning - consumption of poisoned prairie dog carcasses by predators or scavengers.

Nontarget animals most at risk from primary poisoning are domestic livestock and poultry and certain seed-eating wildlife species including waterfowl, grouse, pheasants, and some songbirds. Some grain baits are dyed or the shape may be altered by steam rolling to make the bait less attractive to birds. However, these procedures do not eliminate the risk. Alternate control methods may be necessary in areas where concentrations of nontarget animals live and feed. There is very little hazard to livestock if the applied bait is properly scattered in the recommended amounts. It is still advisable to remove livestock from treatment areas when possible. In addition to reducing risk to livestock, prairie dog control will improve if livestock are not trampling on bait placements. Time bait application when precipitation is not forecast for several days. Bait loses its toxicity and attractiveness after rains or snow. Be sure to clean up and bury any bait spills.

Strychnine baits are no longer legal for use to control prairie dogs because of concerns about nontarget poisoning.

Secondary hazard from strychnine is not caused by ingestion of carcass tissues but from residual bait kernels in the upper digestive tract and mouth. Animals that consume the entire carcass such as dogs, coyotes, foxes, and badgers are most at risk. Animals that remove and discard the digestive tract such as most hawks, golden eagles, crows, and magpies are at considerably less risk. When practical, burial of prairie dog carcasses helps reduce the hazards of secondary poisoning to nontarget animals.

Secondary hazard from zinc phosphide is considered to be low. Zinc phosphide in the presence of digestive acids within the gut converts to phosphine gas, the actual poison agent. The phosphine gas dissipates from the carcass quickly after death leaving little residue to cause secondary poisoning.

Notify neighbors of your bait application and advise them to keep pets confined. In warm weather, carcasses decompose rapidly and present little hazard after 5 to 10 days. If control is conducted when daily temperature drop below freezing carcasses will last longer.

DEPARTMENT SERVICES

Rodent control will be most effective with a coordinated effort by all landowners. Department of Agriculture personnel, upon request, will work with County Commissioners, Extension Agents, and landowners to establish a program suited to local and county needs. Field demonstrations are available free of charge to inform landowners how, when, and where to control prairie dogs and other field rodent pests.



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